IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 109635.123)

Applicant:	Hosea et al.	Examiner:	Boyce
Serial No.:	09/558,755	Art Unit:	3623
Filed:	April 21, 2000		
For:	METHOD AND SYSTEM FOR WEB USER PROFILING AND SELECTIVE CONTENT DELIVERY		

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APPELLANTS' BRIEF PURSUANT TO 37 C.F.R. § 1.192(a)

In response to the Notice of Appeal filed April 12, 2004, Appellants hereby submit their brief as follows:

Real Party In Interest

The real party in interest is Predictive Media Corporation, the assignee of the present application.

Related Appeals and Interferences

There are no known appeals or interferences that will directly affect or be affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-63 are pending. This appeal involves each of these claims.

Status of Amendments

All amendments have been entered. The application was not amended after issuance of the final office action.

Summary of Claimed Invention

The present invention is generally directed to a methods and systems for profiling Web users. Such user profiles can be used, e.g., for selectively delivering content such as advertisements to the users based on their profiles. For example, Claim 1 of the application is directed to a method of profiling a Web user. The method includes providing profiles on a plurality of Web sites, monitoring which of those Web sites the user accesses, and developing a profile of the user. It is important that the profile of the user is developed by inferring user demographics based on the profiles of the Web sites accessed by the user.

Grounds of Rejection to be Reviewed on Appeal

A. Whether Claims 1, 2, 7-9, 11-14, 20, 22-24, 26-57, 62 and 63 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,285,987 issued to Roth et al. ("Roth") in view of U.S. Patent No. 6,208,975 issued to Bull et al. ("Bull").

B. Whether Claims 3-6 and 10 are unpatentable under 35 U.S.C. § 103(a) over Roth.

C. Whether Claims 15-18 are unpatentable under 35 U.S.C. § 103(a) over Roth in view of U.S. Patent No. 6,049,777 issued to Sheena et al. ("Sheena").

D. Whether Claim 19 is unpatentable under 35 U.S.C. § 103(a) as being unpatentable over Roth in view of U.S. Patent No. 6,298,348 issued to Eldering ("Eldering").

E. Whether Claims 21 and 58-61 are unpatentable under 35 U.S.C. § 103(a) as over Roth in view of U.S. Patent No. 6,295,061 issued to Park et al. ("Park").

F. Whether Claim 25 is unpatentable under 35 U.S.C. § 103(a) over Roth in view of U.S. Patent No. 6,366,298 issued to Haitsuka ("Haitsuka").

Grouping of Claims

Claims 1-10, 13-22, and 24- 63 stand or fall together.

Claim 12 stands alone.

Claim 23 stands alone.

Argument

In the office action, the Examiner (1) rejected Claims 1, 2, 7-9, 11-14, 20, 22-24, 26-57, 62 and 63 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,285,987 issued to Roth et al. ("Roth") in view of U.S. Patent No. 6,208,975 issued to Bull et al. ("Bull"), (2) rejected Claims 3-6 and 10 under 35 U.S.C. § 103(a) as being

unpatentable over Roth, (3) rejected Claims 15-18 under 35 U.S.C. § 103(a) as being unpatentable over Roth in view of U.S. Patent No. 6,049,777 issued to Sheena et al. ("Sheena"), (4) rejected Claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Roth in view of U.S. Patent No. 6,298,348 issued to Eldering ("Eldering"), (5) rejected Claims 21 and 58-61 under 35 U.S.C. § 103(a) as being unpatentable over Roth in view of U.S. Patent No. 6,295,061 issued to Park et al. ("Park"), and (6) rejected Claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Roth in view of U.S. Patent No. 6,366,298 issued to Haitsuka ("Haitsuka"). These rejections should be reversed for the reasons set forth below.

I.   **Claims 1-10, 13-22, and 24- 63 are patentable over the cited references**

Claims 1, 2, 7-9, 11-14, 20, 22-24, 26-57, 62 and 63 stand rejected as being obvious over the combination of Roth and Bull. Claim 1 of the present application is directed to a method of profiling a Web user. The method includes providing profiles on a plurality of Web sites, monitoring which of those Web sites the user accesses, and developing a profile of the user by inferring user demographics based on the profiles of the Web sites accessed by the user.

Roth discloses an Internet advertising system. The Examiner concedes that Roth does not anywhere disclose developing a profile of the user <u>by inferring user demographics</u> based on the profiles of the Web sites accessed by the user. However, the Examiner contends that this feature is disclosed by Bull. In particular, the Examiner states that Bull discloses that the user's Web viewing patterns are monitored and matched against software text agents to match a profile (see col. 15, lines 14-19), including user demographics. The Examiner also states in this regard that although Bull also discloses the user is able to explicitly enter profile information, the information may alternatively be collected implicitly, via analysis of online sessions (see col. 1, lines 53-56).

Bull discloses an automated profile generation process. In particular, Bull teaches monitoring of user "looking patterns" to develop a set of software text agent profiles that are integrated with explicitly collected profile information. (col. 14, lines 56-58). Bull develops a user profile datastore from the monitoring of looking patterns and from the explicitly collected profile information. The user profile datastore contains "data about the user, preferences, situational preferences, accounting information, psychographic profile, personal profile and other relevant information related to the user by individual identifier." (col. 10, lines 64-67).

Bull does not disclose or in any way suggest developing a profile of the user by inferring demographics of the user based on the profiles of the Web sites accessed by the user. Examples of demographic data can include, without limitation, data on the user's age, gender, income, and highest attained education level, as indicated, e.g., in Claims 3-6, respectively. In accordance with the present application, demographics such as these are inferred for a user based on the profiles of the Web sites accessed by the user.

While Bull discloses developing user profiles based in part on user looking patterns, such profiles do not contain any inferred user demographics. As noted above, Bull only teaches collecting user preference information. Such preference information does not indicate user demographics.

In fact, the term "demographic data" is mentioned only once by Bull, and in reference to the prior art. In col. 5, lines 20-23, Bull states "Presently, user's profiles are collected based on explicit entry by the user, and extraction from demographic data collected from a variety of sources." In the immediate next sentence, Bull goes on to distinguish his invention from this prior art by stating that he monitors user searching patterns and uses this partly to generate a set of software text agent profiles. Thus, the "demographic data" described by Bull with reference to the prior art is clearly not inferred, but simply a set of given data (apparently available from off-line sources) that is added to user profiles. Demographic data does not even relate to Bull's invention.

Therefore, neither Bull, nor Roth discloses or in any way suggests using a computer to develop a profile of a user by inferring user demographics based on profiles of Web sites accessed by the user.

Independent Claim 1 is therefore patentable over the combination of Roth and Bull. Furthermore, each of the other independent claims in the application all requires inferring user demographics. For at least the reasons noted above, these claims are also patentable over Roth and Bull.

The Examiner also cited the Sheena, Eldering, Park and Haitsuka references with respect to some of the dependent claims. These references add nothing with regard to the above mentioned deficiencies of the Bull and Roth references, and accordingly all of the claims of the application are patentable over each of the cited references, alone or in combination.

Each of the claims rejected under § 103 is thus patentable over the cited references.

II.   Claim 12 is patentable over the combination of Roth and Bull

Claim 11 specifies that monitoring which of said plurality of Web sites the user accesses comprises identifying URL requests made by the user while Web surfing. Claim 12, which depends on Claim 11, further specifies that the URL requests made by the user are identified at an ISP point of presence. This is not disclosed or suggested by Roth, which only discloses collecting information on Web sites viewed using cookies in a user's browser. In particular, Roth discloses that a viewer can access a Web page 11 that contains an HTML reference to the advertising server system 16. The server system 16 uses information from cookie 11A on the client browser to update the database of viewer information 16B to reflect that fact that this particular viewer has accessed this particular Web page. (col. 4, lines 26-50). Roth's advertising server 16 thus monitors Web pages accessed by the user. This advertising server 16 is not an ISP (i.e., Internet service provider) point of presence. The advertising server 16 does not provide

Internet access for the client browser 11; it only provides advertisements that are displayed on Web pages separately accessed by the client browser.

Roth makes reference to an ISP in FIGURE 7 and in column 19, lines 31-35. Roth states that the client browser sends Web HTML references to an ISP, which in turn sends the references to Roth's remotely located advertising server system. There is no mention of the ISP monitoring the Web sites visited by the user, much less by identifying URL requests.

The Examiner states that Roth discloses storing IP data including viewer URLs (col. 8, lines 20-28) in a table 408 (FIGURE 4). However, table 408 is part of a view server 320, which is not part of any ISP point of presence. There is simply no teaching or suggestion in Roth of monitoring at an ISP point of presence which of said plurality of Web sites the user accesses by identifying URL requests. The Examiner has not explained where Roth teaches any monitoring at an ISP point of presence. The rejection of Claims 11 and 12 should thus be reversed.

III.   Claim 23 is patentable over the combination of Roth and Bull

Claim 23 is dependent on Claim 22 and specifies that the computer for profiling a Web user is an ISP point of presence server. The Examiner contends that this is disclosed by ISP 712 connected to servers 716 in FIGURE 7. While the server 716, which is Roth's advertising server, is connected to the ISP 712, the ISP merely sends certain data to the server 716. The ISP does not in any way profile Web users, and does not have the elements of the computer specified in Claims 22 and 23. The Examiner states on page 13 of the final office action that "[t]he computer in Roth indeed profiles users via their history data." The "computer" referred to by the Examiner is presumably Roth's advertising server 716, which arguably profiles users. However, Roth provides no teaching or suggestion whatsoever that the computer for profiling a Web user is an ISP point of presence server, rather than the advertising server. These rejections should therefore also be reversed.

For the reasons set forth above, the rejection of each of Claims 1-63 should be reversed. A listing of the pending claims is set forth in the attached appendix.

Respectfully submitted,

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Appendix: Listing of pending claims

Claims on Appeal

1.   A method of profiling a Web user, comprising:

providing profiles on a plurality of Web sites;

using a computer to monitor which of said plurality of Web sites the user accesses; and

using a computer to develop a profile of the user by inferring user demographics based on the profiles of the Web sites accessed by the user.

2.   The method of Claim 1 wherein the profile of the user contains demographic data.

3.   The method of Claim 2 wherein said demographic data includes data on the user's age.

4.   The method of Claim 2 wherein said demographic data includes data on the user's gender.

5.   The method of Claim 2 wherein said demographic data includes data on the user's income.

6.   The method of Claim 2 wherein said demographic data includes data on the user's highest attained education level.

7.   The method of Claim 1 wherein the profile of the user contains psychographic data.

8.   The method of Claim 7 wherein said psychographic data includes data on the user's interests.

9.   The method of Claim 1 wherein providing profiles on a plurality of Web sites comprises providing a database associating each of said plurality of Web sites with demographic characteristics of known persons who have accessed said sites.

10.   The method of Claim 9 wherein said database is provided by a Web site ratings service.

11.   The method of Claim 1 wherein monitoring which of said plurality of Web sites the user accesses comprises identifying Uniform Resource Locator (URL) requests made by the user while Web surfing.

12.   The method of Claim 11 wherein said Uniform Resource Locator (URL) requests are identified at an Internet Service Provider (ISP) point of presence.

13.   The method of Claim 12 wherein said Uniform Resource Locator (URL) requests are associated with a user and stored in a database.

14.   The method of Claim 1 wherein developing a profile of a user comprises updating an existing user profile.

15.   The method of Claim 14 wherein developing a profile of a user comprises combining the profiles of the Web sites accessed by the user to the existing user profile using an averaging algorithm.

16.   The method of Claim 15 wherein said user profile includes data on a plurality of demographic categories, each associated with a rating, and the method further comprises filling in a value for the rating for any demographic category having a low confidence measure.

17.   The method of Claim 16 wherein filling in a value comprises using an average rating of persons having similar profiles to that of said user for a category having a low confidence measure.

18.   The method of Claim 17 wherein said average rating is determined using a clustering algorithm.

19.   The method of Claim 1 further comprising erasing records of which Web sites said user has visited after developing the user's profile to protect user privacy.

20.   The method of Claim 1 further comprising delivering selective advertising to said user based on his or her profile.

21.   The method of Claim 20 wherein delivering selective advertising comprises transmitting a pop-up advertisement to a display of a computer operated by the user.

22.   A computer for profiling a Web user, comprising:

a memory for storing a program; and

a processor operative with the program to:
(a) monitor which of a plurality of Web sites the user accesses; and
(b) develop a profile of the user by inferring demographics of the user based on predetermined profiles of the Web sites accessed by the user.

23.   The computer of Claim 22 wherein said computer comprises an ISP point of presence server.

24.   The computer of Claim 22 further comprising a database associating each of said plurality of Web sites with demographic characteristics of persons accessing said sites, said persons having known demographic characteristics.

25.   The computer of Claim 22 wherein the program includes a sniffer for identifying Uniform Resource Locator (URL) requests made by the user while Web surfing.

26.   The computer of Claim 22 further comprising a database in which the Uniform Resource Locator (URL) requests and associated user information are stored.

27.   The computer of Claim 22 wherein said processor includes means for erasing records of which Web sites said user has visited after developing the user's profile to protect user privacy.

28.   The computer of Claim 22 wherein said processor further transmits selective advertising to said user based on his or her profile.

29.   The computer of Claim 22 wherein said advertising comprises a pop-up advertisement to be displayed on a display of a computer operated by the user.

30.   The computer of Claim 22 wherein said computer cooperates with a computer operated by the user to display an advertisement on a display of the computer operated by the user, said advertisement being selected from a plurality of advertisements based on the profile of the user.

31.   A system for profiling a Web user and delivering selective advertising to the user, comprising:

a database containing profile data on a plurality of Web sites;

means for monitoring which of said plurality of Web sites the user accesses;

means for developing a profile of the user by inferring demographics of the user using profile data of the Web sites accessed by the user;

means for matching the user with an advertisement based on the developed user profile; and

means for delivering said advertisement to the user.

32. A system for inferring a profile of a person using a client computer for Web surfing, and delivering selective advertising to the person based on his or her profile, comprising:

a local server computer linked to said client computer for providing Internet access, said local computer including means for monitoring which of said plurality of Web sites the person accesses, means for developing a profile of the person by inferring demographics of the person based on predetermined profile data of the Web sites accessed by the person, and means for delivering an advertisement to the client computer; and

a remote server computer linked to said local server computer and including means for matching an advertisement received from an advertiser to said person based on his or her profile, and means for transmitting said advertisement to said local server computer for eventual transfer to the client computer.

33. The system of Claim 32 wherein said local server computer includes a local database containing data associating a plurality of Web sites with predetermined profile data on said sites.

34. The system of Claim 33 wherein said remote server computer includes a master database containing data associating a plurality of Web sites with predetermined profile data on said sites, and wherein data in said master database is periodically synchronized with said local database.

35. The system of Claim 32 wherein said local server computer and said remote server computer are linked by an Internet connection.

36. The system of Claim 32 wherein said means for delivering an advertisement comprises means for delivering a Uniform Resource Locator (URL) string pointing to the advertisement.

37.   The system of Claim 32 wherein the profile of the person contains demographic data.

38.   The system of Claim 37 wherein said demographic data includes data on the person 's age.

39.   The system of Claim 37 wherein said demographic data includes data on the person 's gender.

40.   The system of Claim 37 wherein said demographic data includes data on the person 's income.

41.   The system of Claim 37 wherein said demographic data includes data on the person 's highest attained education level.

42.   The system of Claim 32 wherein the profile of the person contains psychographic data.

43.   The system of Claim 42 wherein said psychographic data indicates the person's interests.

44.   The system of Claim 32 wherein said means of monitoring which of said plurality of Web sites the person accesses comprises identifying Uniform Resource Locator (URL) requests made by the person while Web surfing.

45.   The system of Claim 32 wherein said local server computer is located at an Internet Service Provider (ISP) point of presence.

46.   The system of Claim 32 wherein the means for developing a profile of a person comprises means for combining the profiles of the Web sites accessed by the person to an existing profile using an averaging algorithm.

47.   The system of Claim 46 wherein said profile includes data on a plurality of demographic categories, each associated with a rating, and the system further comprises means for filling in a value for the rating for any demographic category having a low confidence measure.

48.   The system of Claim 47 wherein filling in a value comprises using an average rating of persons having similar profiles to that of said person for a category having a low confidence measure.

49.   The system of Claim 48 wherein said average rating is determined using a clustering algorithm.

50.   The system of Claim 32 further comprising means for erasing records of which Web sites said person has visited after developing the person's profile to protect user privacy.

51.   The system of Claim 32 further comprising means for monitoring how long the advertisement is displayed to the user.

52.   The system of Claim 32 further comprising means for monitoring whether the user has clicked-through the advertisement.

53.   A computer readable medium comprising a program for profiling a Web user by performing the steps of:

monitoring which of a plurality of Web sites having predetermined profiles the user accesses; and

developing a profile of the user by inferring demographics of the user based on the profiles of the Web sites accessed by the user.

54. The computer readable medium of Claim 53 wherein the medium comprises a removable memory.

55. The computer readable medium of Claim 53 wherein the medium comprises a signal transmission.

56. A computerized method of profiling Web users and selectively delivering content to said users, comprising:

providing profiles of a plurality of Web sites, said profiles including demographic data of persons known to have visited said sites;

electronically monitoring which of said plurality of Web sites each of said users visits;

developing a profile of each user by inferring demographics of the user based on the profiles of the Web sites visited by the user;

identifying a target group of said users who would be receptive to receiving certain content based on their profiles; and

selectively delivering the content to users of that target group.

57. The computerized method of Claim 56 wherein said content comprises advertisements.

58. The computerized method of Claim 57 wherein said advertisements comprises a pop-up advertisements.

59. The computerized method of Claim 58 wherein said advertisements comprises a banner advertisements.

60.   The computerized method of Claim 58 further comprising monitoring how long the content is displayed to the user.

61.   The computerized method of Claim 60 further comprising monitoring whether the user has clicked-through the content.

62.   The computerized method of Claim 56 further comprising adjusting the target group to optimize user responsiveness to the content.

63.   The computerized method of Claim 62 wherein said content comprises an advertisement, and determining user responsiveness to the content comprises determining how many users have clicked-through the advertisement.